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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,368	02/23/2004	Hongzhi Kong	DP-310683	8904

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STEFAN V. CHMIELEWSKI
DELPHI TECHNOLOGIES, INC.
Legal Staff MC CT10C
P. O. Box 9005
Kokomo, IN 46904-9005

EXAMINER

LU, TONY W

ART UNIT PAPER NUMBER

2878

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,368	KONG ET AL.	
	Examiner	Art Unit	
	Tony Lu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-14 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 15-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/23/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7,15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claim 1, it is unclear whether an apparatus or method steps is being claimed since the claim includes method steps to be performed by the processor.

As for claim 15, it is unclear whether an apparatus or method steps is being claimed since the claim includes method steps to be performed by the processor.

Claims 6,7,19 and 20 are rejected since they are further detailed method steps depend on claims 1 and 15 accordingly.

Claims 2-5 and 16-18 are rejected as they depend on rejected claims 1 and 15.

As understood, the method steps will not be treated and the examiner is interpreting the claims as they drawn to apparatus.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 5-7, as understood by the examiner, are rejected under 35 U.S.C. 102(e) as being anticipated by Myers US2003/0067537.

With respect to claim 1, Myers discloses an imaging system comprising: a light projector(55); a light source(56); a camera(59); and a processor(computer or electronic processing device [0041]) coupled to the light projector, the light source and the camera(see fig.12 and fig.16, note that all the components are coupled in a complex system) also note that a memory subsystem is inherently disclosed in a processor for storing necessary information/data for the processor to function efficiently.

Further citations in the claims 5-7 are just further details drawn to the method steps in claim 1, therefore claims 5-7 are not given any patentable weight.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4, as understood by the examiner, is rejected under 35 U.S.C. 103(a) as being unpatentable over Myers US2003/0067537.

With respect to claim 4, per the above discussion, note that Myers disclose a filtering device(20) positioned between the camera and a target(a person), but Myers fails to disclose the filter is a near infrared filter.

Although Myers lacks a clear teaching of the filter is a near infrared filter, selecting a specific filter in order to prevent unwanted wavelength/light/signal from reaching the camera would have been obvious to one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Myers accordingly in order to prevent interference light/signal/wavelength from reaching the camera.

Claims 2,15 and 17-20, as understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers US2003/0067537 in view of Pohle US4239392.

With respect to claim 2, per the above discussion, although Myers lacks a clear teaching of the light projector includes a laser and a diffraction grating,

Pohle discloses a light emitting system having a projector comprising a laser and a diffraction grating(see col.1 lines 10-25)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Myers with the projector taught by Pohle in order to insure high accuracy in the projected beam. Further citation regarding the light source includes light emitting diode, using a known and available light emitting diode(LED) in order to provide a long-lasting light source would have been obvious to one of ordinary skill in the art.

With respect to claims 15 and 18-20, Myers discloses an imaging system comprising: a light projector(55); a light source(56); a camera(59); and a

processor(computer or electronic processing device [0041]) coupled to the light projector, the light source and the camera(see fig.12 and fig.16, note that all the components are coupled in a complex system) also note that a memory subsystem is inherently disclosed in a processor for storing necessary information/data for the processor to function efficiently, but Myers lacks a clear teaching of the light projector includes a laser and a diffraction grating.

Although Myers lacks a clear teaching of the light projector includes a laser and a diffraction grating,

Pohle discloses a light emitting system having a projector comprising a laser and a diffraction grating(see col.1 lines 10-25)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Myers with the projector taught by Pohle in order to insure high accuracy in the projected beam. Further citation regarding the light source includes light emitting diode, using a known and available light emitting diode(LED) in order to provide a long-lasting light source would have been obvious to one of ordinary skill in the art.

With respect to claim 17, per the above discussion, note that Myers disclose a filtering device(20) positioned between the camera and a target(a person), but Myers fails to disclose the filter is a near infrared filter.

Although Myers lacks a clear teaching of the filter is a near infrared filter, selecting a specific filter in order to prevent unwanted wavelength/light/signal from reaching the camera would have been obvious to one of ordinary skill in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Myers accordingly in order to prevent interference light/signal/wavelength from reaching the camera.

Further citations in claims 18-20 are not given any patentable weight as they are drawn the method steps in claim 15.

Claims 3 and 16, as understood by the examiner, are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers US2003/0067537 in view of Pohle US4239392 in view of Sliski US5623139.

With respect to claims 3 and 16, per the above discussion, the proposed system of Myers and Pohle lacks a clear teaching of a diffuser positioned between the LED and a target

Sliski disclose a lighting system including a plurality of LED and a diffuser(120) positioned between the LED and the target(surface).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Myers and Pohle by utilizing a diffuser taught by Sliski in order to produce a uniform light from the light source.

Allowable Subject Matter

Claims 8-14 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art fails to disclose a method for providing an object surface characterization system with adaptive lighting control, among other method steps,

comprising the steps of: directing a camera to capture a first image frame and a second image frame, wherein the first image frame includes contributions provided by a light source, and a plurality of light beams of a beam matrix provided by a projector after reflection from a surface of a target, and wherein the second image frame includes contributions provided by the light source after reflection from surface of the target; examining at least a portion of the first and second image frames to provide an indication of the intensities of the plurality of light beams and the light source; and controlling a camera integration time of the camera and a pulse width of the light source based upon the intensities of the plurality of light beams and the light source to achieve a desired target illumination.

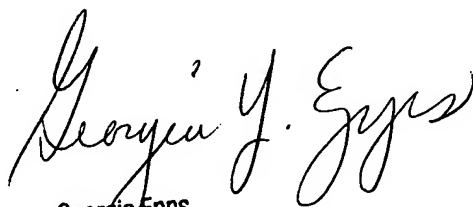
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 5712722328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


TL


Georgia Epps
Supervisory Patent Examiner
Technology Center 2800